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ABSTRACT

This report describes a plan for utilizing critical thinking in the art education setting to improve students' decision-making and problem-solving abilities. The targeted population consists of sixth-grade students in a growing middle class, rural based community located in northern Illinois. The problem of weak critical thinking skills was documented through data revealing low student pretest results and teacher opinion surveys. Analysis of probable cause data revealed that students displayed a lack of decision-making, problem-solving, and metacognitive skills. Faculty surveys reported that students have difficulty with solving problems and making decisions. A review of solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting, resulted in the selection of a 5-step intervention that puts an art criticism emphasis on the art education curriculum. The five components involve: the review and refinement of art vocabulary; the teaching and application of open-ended questioning; the modeling and utilization of constructive criticism; the establishment of critique sessions measured by checklists; and the keeping of student journals. Post-intervention data indicated an increase in students' decision-making, problem-solving, and metacognitive abilities. Students displayed the ability to synthesize the components of the intervention, and transfer them to successfully critique artwork. Appendixes contain various pre- and post-tests, teacher survey, and various sheets concerning art critiques and information. (Contains 8 figures, 2 tables of data, and 25 references.) (BT)

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USING CRITICAL THINKING IN THE ARTS TO IMPROVE DECISION MAKING AND PROBLEM SOLVING

Gail Woodman

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ABSTRACT

This report describes a plan for utilizing critical thinking in the art education setting in order to improve students' decision-making and problem-solving abilities. The targeted population consists of sixth grade students in a growing, middle class, rural based, community, located in Northern Illinois. The problem of weak critical-thinking skills was documented through data revealing low student pretest results and teacher opinion surveys.

Analysis of probable cause data, involving a pretest, revealed that students displayed a lack of decision-making, problem-solving, and metacognitive skills. Faculty opinion surveys reported that students have difficulty with solving problems and making decisions. They felt that students aren't put in enough curricular predicaments to utilize critical thinking, and many students react too quickly when faced with these situations. Teacher training, preservice and inservice, was reported to lack the skills needed to carry out the objective of teaching students critical thinking skills in order to meet the demands of a changing society and workforce.

A review of solution strategies suggested by knowledgeable others, combined with an analysis of the problem setting, resulted in the selection of a five step intervention that puts an art criticism emphasis on the art education curriculum. The five components involve: the review and refinement of art vocabulary; the teaching and application of open-ended questioning; the modeling and utilization of constructive criticism; the establishment of critique sessions measured by checklists; and the keeping of student art journals.

Post intervention data indicated an increase in students' decision-making, problem-solving and metacognitive abilities. Students displayed the ability to synthesize the components of the intervention, and transfer them to successfully critique artwork.

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CHAPTER 1

PROBLEM STATEMENT AND CONTEXT

General Statement of the Problem

The art education students at the targeted elementary school display weak critical thinking skills that contribute to difficulty in decision making and problem solving. Evidence for the existence of this problem includes teacher observations, records and surveys.

Immediate Problem Context

There are 1,050 elementary students currently enrolled in the targeted elementary school. The school is one of six elementary facilities that educate students in preschool through sixth grade levels. The population consists of 81.1% White, 16% Mexican-American, 1.6% African-American, 1% Asian-American, and .3% Native-American. Of these students, 21.1% of the population are eligible for reduced-priced or free lunches. The school has an attendance rate of 94%, with a chronic truancy rate of 1.3%. The student mobility rate is 20.4%.

The staff includes one principal, one assistant principal, 36 classroom teachers, two teachers of the Educably Mentally Handicapped (EMH), two teachers of Behavior Disorder (BD) students, one art teacher, one music teacher, three physical education teachers and one librarian. Support staff includes three Chapter 1 reading resource teachers, three Learning Disability (LD) resource teachers, one instructor of the gifted, two speech therapists, one Transition Program of Instruction (TPI) instructor, one

nurse, three library clerks and four teachers' assistants. The office is staffed with four secretaries. The teaching and administrative staff are 100% White with an average of 17 years of teaching experience. Fifty-five percent of the staff currently hold masters degrees, 10% are currently enrolled in a master's program and the remaining 35% posses bachelors degrees. There are 63 females and 5 males within the teaching, support and secretarial staff. The administrative staff at the school is of the male gender. The teacher-pupil ratio is 24:1 in kindergarten through second grade (25 pupils per classroom being maximum class size) and 29.5:1 in third through sixth grade (30 pupils per classroom being maximum class size).

The targeted school facility was built in 1956 and was originally designed and utilized as both an elementary and junior high school for the community. In 1966, eight elementary classrooms were added to the facility. The following year (1967) the junior high offering, in this combined school, was relocated to another facility. The targeted school facility was then divided into two, separately administrated, elementary schools. The facility became one elementary school in 1969.

The school is located in a residential area. A majority of the students live in the immediate area while some are bussed in from the surrounding subdivisions. The students in pre-kindergarten through sixth grade levels are educated in self-contained classrooms. The students are heterogeneously grouped in English, math, reading, science and social study disciplines. Time devoted to core subjects in intermediate grade levels on a daily basis are as follows: reading and language arts, 107 minutes; math, 45 minutes; science, 40 minutes; and social science, 40 minutes. The district uses the Silver Burdett Ginn Reading series, Addison Wesley Math series and the Heath Science and Social Science series. The students in first through sixth grade levels participate in physical education on a daily basis for 25 minutes and music instruction twice a week for 25 minutes. Students in the third through sixth grade levels

receive art instruction once a week for 45 minutes. There are also a variety of special education programs for students including Learning Disability (LD) resource, Chapter 1 reading resource, Transitional Program of Instruction (TPI), Behavior Disorder (BD), Educably Mentally Handicapped (EMH) and speech therapy. Additional services are provided by district social workers, occupational therapists and psychologists.

The visual art education program at the targeted elementary school includes services to students in third through sixth grade. The students receive formal art instruction by a certified art education specialist for 45 minutes once a week. The researcher, who is also the art education specialist, was schooled in the D.B.A.E. methodology of art education. The Disciplined-Based Art Education methodology is a humanities-based approach which involves the teaching of art production, art history, art criticism and the aesthetics of art. It was developed after the J. Paul Getty Trust surveyed the bleak state of art education in the early 1980's. (Williams, 1995, p.68) The actual implementation of this methodology began in 1982, in hopes of "developing intellectual skills and create opportunities to explore creative self-expression" in the students which were schooled in this approach. (p. 68)

The fine arts programs in America's schools are usually considered a "frill" to have included in the curriculum. They are also the first programs to be cut at budget-cutting time. Most administrators, school boards and school districts don't realize the skills that the fine arts teach to students. These skills bring students to levels of higher-order thinking such as: application; analysis; synthesis and evaluation.

The Surrounding Community

This school is located in a medium-sized rural community 20 miles from a middle-sized metropolitan area and 90 miles from a major metropolitan area. It is also serviced by an interstate highway, a federal highway and a state highway.

According to 1990 statistics, this Midwest community had a population of 15,958 people: 51.6% female and 48.4% male. This population consisted of 93.3% White, 10.3% Mexican-America Origin, 0.6% African American, 0.4% Asian-American, Pacific Islander, and 0.2% Native-American, Eskimo, Aleut, and 5.5% are of other ethnic origins.

The socio-economic status of this community is represented by incomes ranging from under $15,000 to over $100,000. The median household income was $29,503 with a per capita income of $21,337. Seventy and one-tenth percent of the population are family households, 14.9 percent are single-parent households, 29.9 percent are non-family households, and 2.3 percent are group households. The average number of people per household is 2.58. Of these households, 62.6% are owner-occupied with a median home value of $58,400 and 37.4% are renter-occupied with the median monthly rent of $303. Of these households, 8.1% reside in mobile homes .

This community's labor force consists of 8,184 workers, with a 6.7% unemployment rate. Educationally, 12.2% of this population has less than a ninth grade education; 16.9 % received no diploma; 41.1% are high school graduates; 22.1% have some college course work; and 7.7% are college graduates. The labor force includes 47.2% blue collar workers and 25% white collar workers. The dominant employers of this community include an international automobile manufacturer, a major tool and die corporation, a nationally known food processing plant, a large paperboard company, a heat treating company, a beauty salon equipment supplier, a dairy product distributor and a wire and tool manufacturer.

The school district is a large community unit school district. There is one high school, one junior high school, six elementary schools and a special education facility. Due to the growing population, many schools have experienced a redefinition of space or construction of additional space.

The district's central office employs a superintendent, an assistant superintendent of business, an assistant superintendent of curriculum and a director of special education. The board of education consists of seven members who are elected by the voters of the community. Each member serves a four year term without pay and can be reelected. The board makes administrative decisions regarding discipline, staffing, curriculum and the budget.

A local community concern is the rapid growth of the county's outlying residential population. Between 1980 and April 1990, the population increased 5%. By 1992, the population had increased an additional 6%. If this growth rate continues, calculations suggest that the population will have increased 20% by the year 2000. A second concern is the growing racial tension and gang activity within the community. This became noticeably evident with the recent violent activities at the various educational facilities. The district has initiated several intervention programs that are being implemented. One such program is REDAC (Racial Ethnic Diversity Advisory Committee). This program allows students the opportunity to discuss current issues and arrive at possible solutions. The group also goes to different educational facilities within the district and speaks about the issues in order to help others who face similar problems.

National Context of the Problem

The need for students to possess strong critical thinking skills, also referred to as reasoning, relies on the expectation society places on education. Makins (1995), explains that schools are supposed to help children think in more sophisticated ways, but when children leave the educational setting, research shows that they tend to revert back to the way of thinking they held at age five. The past educational curriculum emphasized proficiency in the mechanics of reading, writing and mathematics. Society and technology has changed so that educational mechanics and the retention of

information do not have the importance they once held. Society now has access to technology that assists with educational mechanics and provides information. The issue is how to access and execute the information.

The problem of weak critical thinking skills displayed by students has become a growing concern on the national level that coincides with the evolution of computer technology. When educators are forced to face the sudden, sometimes considered obtrusive, craze of the integration of computer technology in the educational setting, they also come to the realization that students lack adequate problem-solving and decision-making skills. According to Williams (1995), "The ability to think critically and creatively and to make informed judgments is vital for young people preparing for the 21st century. The world is changing rapidly and so is the work place" (p.68). A national survey (March 1996) of 800 kindergarten through 12th grade teachers, conducted for the Horace Mann Educators Corporation asked what students will learn in the 21st-century school. More than 90% of teachers believe that schools should teach students listening and decision-making skills to better prepare them for careers and other adult responsibilities. When asked what skills students will need most in the workplace of the future, 95% of teachers overwhelmingly agree that knowing how to use information to solve problems will be a top priority. The teachers' opinions of students needing to obtain a mastery in advanced mathematics and scientific principles (62%) shows a trend headed away from the prior belief in a strong science and mathematics curriculum.

The foreshadowing of the importance of strong critical thinking skills is evident from information dating back 12 years. According to Hanford (1984), "Problems to be faced by our increasingly complex social and technological society in the years ahead will require the best critical thinking and the most advanced reasoning abilities that we can develop in our young people" (p.222). Educators, students, the larger society and

technology face the same problems that have existed for more than a decade. The technology is more than accessible, but society has an up-and-coming work force that doesn't have adequate skills to master its full potential.

CHAPTER 2

PROBLEM DOCUMENTATION

Problem Evidence

In order to document the extent of students' weak critical thinking skills, scores on a pretest, completion of a Venn diagram, performance on a project and results of a teacher survey were noted. Of the 29 students in the targeted sixth grade class, 26 students were involved in the baseline data collection during the first class session in August 1996.

The first part of the three part student assessment was the pretest. (Appendix A) The pretest asked students to create five solutions to a problem.

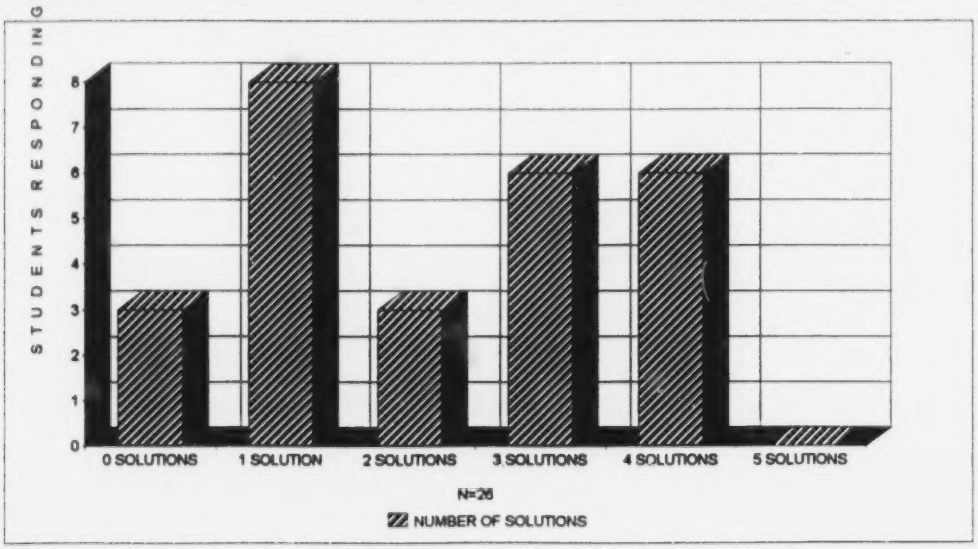
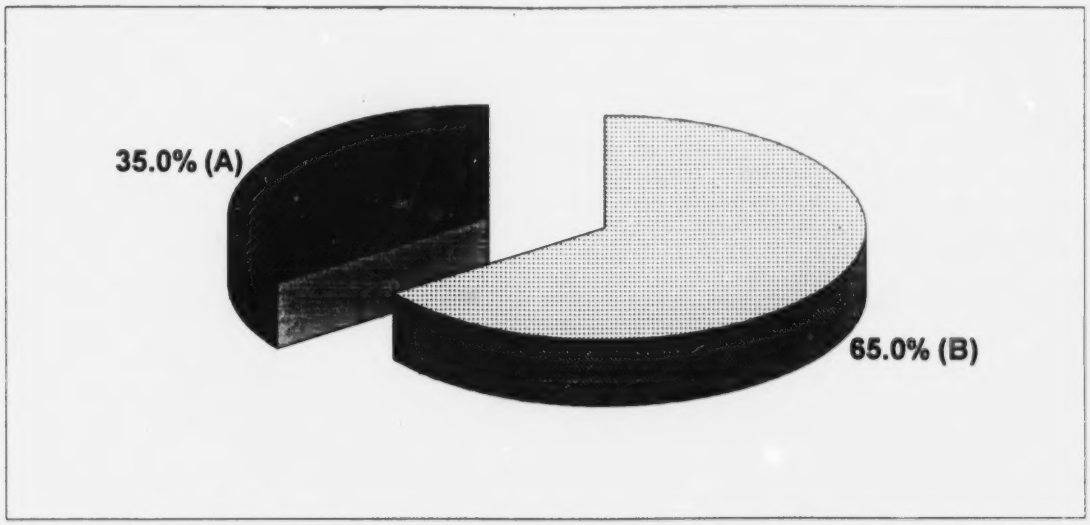


Figure 1. Number of students responding to five solution pretest on critical thinking.

As the data in figure 1 indicate, the majority (54%) of students responded with two or fewer solutions which were valid. None of the students were able to create five valid solutions to the presented problem. An additional portion of the same pretest requested students to: reflect on their solutions; choose the best solution; and explain why. This skill is known as metacognition, which is thinking about your thinking. Only 35% of the targeted class was able to exhibit metacognitive skills. This information is illustrated in figure 2.



A=Percentage of students able to exhibit metacognitive skills.
B=Percentage of students unable to exhibit metacognitive skills.

Figure 2. Percentage of students exhibiting metacognitive skills.

The data suggests that the 26 students involved in the first portion of the three part assessment display weak critical thinking skills.

The second portion of the three part student assessment was the completion of a Venn diagram. (Appendix B) The Venn diagram asked students to fill in: the characteristics of a person in one circle; the characteristics of a dog in the second circle; and the commonalties of these objects in the overlap of the two circles. The researcher's criteria for scoring the student's diagrams was based on a total of

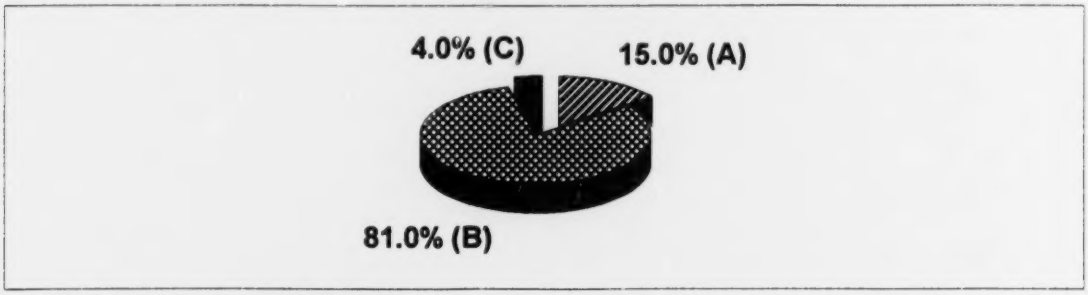
characteristics and commonalties given by each student. The researcher created the following index in table 1 for scoring the Venn diagram.

Table 1

Index for Scoring Venn Diagram

Total Characteristics and Commonalties	Evaluative Level
16-12	Outstanding critical-thinking ability
11-7	Good critical-thinking ability
6-2	Fair critical-thinking ability
1-0	Poor critical-thinking ability

Of the 26 students who completed the Venn diagram portion of the assessment, 81% are considered to have a fair critical-thinking ability. An additional 15% of the students are considered to have a poor critical-thinking ability. Only 4% of the students are considered to have good critical-thinking ability, while no students exhibited outstanding critical-thinking ability. This information is illustrated in figure 3.

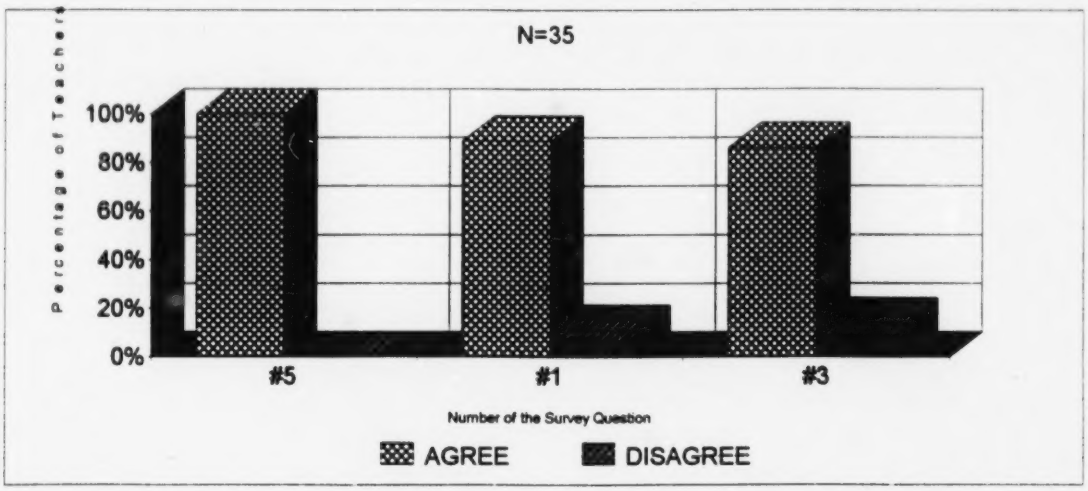


A=Poor critical-thinking ability
B=Fair critical-thinking ability
C=Good critical-thinking ability
D=Outstanding critical-thinking ability

Figure 3. Percentage of students' indexed levels of critical-thinking ability.

The third portion of the three part student assessment was the completion of a problem-solving art project. (Appendix C) This art project asked students to create a drawing out of four shapes that were placed on the paper. The students were asked to include five elements to their artwork. The results were slightly higher when the researcher scored the test for elements that were included to solve the requested problem. The researcher noticed that the testing conditions were not conducive to conclusive results due to students being able to view other student's work. The researcher did notice that there was a higher comfort level when students were able to participate in an "art project-type" assessment. Possibly too comfortable.

The last piece of baseline data collection is a teacher opinion survey. Of the 60 surveys given out, 35 teachers responded. The survey asked teachers their opinion of the level of students' critical-thinking skills and their opinions as to what a possible cause would be. (Appendix D) The results are illustrated in figure 4.

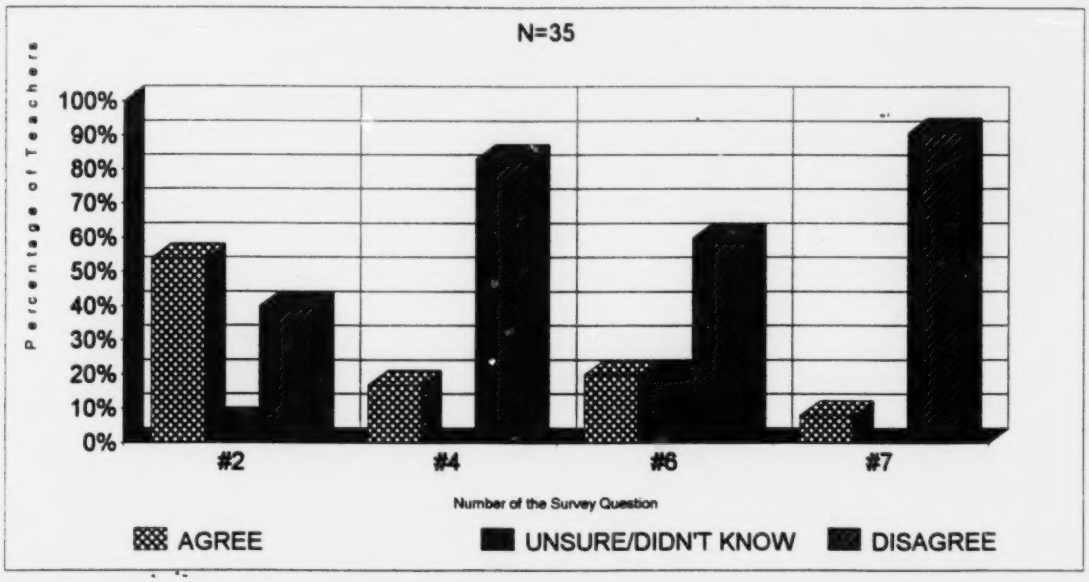


#5- Critical-thinking skills are necessary to solve problems and make decisions.
#1- Students have difficulty with problem solving and decision making.
#3- Students react too quickly when trying to figure out solutions to problems on their own.

Figure 4. The results of the teacher opinion survey.

Teachers unanimously (100%) agree that critical-thinking skills are necessary to solve problems and make decisions, and that student's are observed (by 89% of teachers) as having difficulty when trying to perform these processes. Teachers' opinions expressed (86%) that they recognize a problem of "quick reaction time", on the part of the students, as a possible reason for this difficulty. Students may experience difficulty and react too quickly when they are trying to figure out solutions to their problems because they are unaware of how to think critically and/or they are not being properly prompted to think critically. This group of opinions shows that students display weak critical-thinking skills.

The next group of opinions inquires about students' and teachers' exposure to critical thinking. This information is illustrated in figure 5.



#2- Students are taught critical thinking.
#4- Students are adequately challenged with tasks that require critical-thinking skills.
#6- Pre-service teachers receive training in their undergraduate studies to support their efforts to teach critical thinking.
#7- Our district provides inservice opportunities to further teachers' efforts to teach critical thinking.

Figure 5. The results of the teacher opinion survey.

Teachers are divided as to whether students are being taught or are able to be taught critical-thinking skills. The teachers may not be aware of what critical thinking is or that it is able to be specifically taught. Teachers' opinions reveal that students are not being adequately challenged with tasks that require critical-thinking skills. Teachers may not be integrating thinking skills into their curriculum.

There are 60% of the teachers reporting that their undergraduate studies included training in how to teach critical thinking, with 20% stating that their studies did not include this training. And the remaining 20% of the teachers "weren't sure" or "couldn't recall" if their undergraduate studies included training in how to teach critical thinking. This information may indicate that 40% of the teachers left college without proper training to bring students to higher levels of thinking and, possibly, may not even be teaching it. The teachers also agree (91%) that their district doesn't provide supplemental inservice training opportunities to further their efforts to teach critical thinking. If teachers are not receiving training during or after college as to how to teach critical thinking, a large percentage of them are not conscious of the value of and current need for students to possess critical thinking abilities.

The baseline data collection verifies that the students are displaying weak critical-thinking skills. It also provides insight into possible reasons why the students are displaying this status.

Probable Causes

The literature suggests several underlying causes for weak critical thinking skills in the school setting. The suggestions range from problems caused by: traditional teaching, curriculum and student responsiveness; to the major upheaval of technology in the educational setting and how it isn't being addressed in order to prepare a future workforce.

The traditional teaching model that portrays the teacher as an "assembler" or a "low-order mind stuffer" has endured in the minds of generations of individuals that were taught with the same methodology (Bellanca & Fogarty, 1991, p. xiii) . The basis for this methodology originated concurrently with the industrial revolution hence, the "factory model of education" (Harris, 1992, p. 3). This philosophy, of teaching the mechanics of learning to enable all students to reach a predetermined standard in order to pass the final inspection, has structured the educational system of today. The model leads to a strong emphasis on learning basic skills, teaching for the test, a crammed curriculum and low level cognitive learning.

Teachers utilize their pre-service training when they have the opportunity to synthesize what works best in their own classroom. Teacher training reflects the "split view" that the nation has toiled with for years. The two ideals are split between, teaching measurable attainment of basic skills and developing complex thinking strategies in all content areas (Bellanca, 1992, p.165). This splitting of educational views also divides methodology training for pre-service teachers. Fogarty and Bellanca (1993) acknowledge a cause of student's weak critical thinking skills:

> Teachers themselves are usually not formally trained in thinking skills, so they cannot easily teach the skills of thinking to their students. Instead, they repeat the same errors they were taught, in this case, to use critical skills without knowing it and without benefiting from them. (p.12)

The combination of stressing the mechanics of learning, curriculum coverage and controversial teacher training influences student responsiveness. In 1967, Raths, Jonas, Rothstein and Wasserman pointed to the quiet classroom consisting of: memorization, the three Rs, drilling and individual work as the one that is rewarded and the opposing atmosphere involving: inquiry, reflection and considering alternatives as the one that is frowned upon (as cited in Carr, 1988, p.69). It is ironic that this view is

still standard in today's schools. Questioning of the teacher without the teacher questioning the student is regarded as disrespectful. The blind obedience that students exhibit inhibits the use of critical thinking skills.

The original rationale for public schools "started by deciding the purposes of our communities, [and] the imperatives for our country" (Mathews, 1996, p.3C). The purposes and imperatives are more complex than when public schools originated. The modern citizen is not only expected to grasp complicated social and political issues but needs to interpret, question, and evaluate their context (National Research Center on Student Learning, 1991). The modern worker has been affected by electronic technology and "increased automation has reduced the need for supervision of entry-level workers. These workers are now expected to operate independently in roles that require problem-solving and decision-making skills" (Lankard, 1990). The modern student is expected to meet the demands of a changing society. A possible cause of student's weak critical thinking skills could be attributed to the major upheaval of technology and the new demands that it places on our schools to teach skills that an earlier society didn't emphasize.

A summary of possible causes for students' weak critical thinking skills includes:

1. Traditional teaching methods that don't promote critical thinking.
2. A curriculum that stresses the mechanics of learning and/or basic skills.
3. Failure to train pre-service teachers in techniques to teach critical thinking.
4. Lack of student responsiveness due to blind obedience.
5. The change in the demands of employability without tailoring our school's mission to fulfill that demand.
6. The change in the technology and resources in learning without changing the methodology of teaching.
7. Time constraints involved in areas where students have an opportunity to think critically.

8. Student's lack of knowledge of when they are thinking critically and how it occurs.

CHAPTER 3

THE SOLUTION STRATEGY

Literature Review

The literature points to many solutions to the problem of students' weak critical thinking skills. The solutions involve: strategies to increase discussion with students to promote critical thinking skills; integrating critical thinking skills into the curriculum of each content area; adopting specific programs or methodologies such as experiential education and active learning; and direct instruction of critical thinking skills. The final solution reviewed presents specific references to a fine arts curriculum.

Increasing discussion with students would naturally lessen teacher monopolization of verbal exchange. Instructional Conversations (1992), redefines the teachers' role in teaching. The teacher is portrayed as a facilitator of conversations to encourage critical thinking. The teacher should be one who: questions; prods; challenges; coaxes; keeps quiet; as well as, one who provides clarification and instruction when necessary.

The integrating of critical thinking skills into the curriculum of each content area, represents a strong belief about how to generate students' thinking. Carr (1988), believes that, " At each educational level, thinking must be practiced in each content field" (p. 69). The inherent way to integrate critical thinking is through critical reading of text, children's literature and utilizing popular media. Carr also includes, "writing to learn" as a way of keeping with the current trend of writing across the curriculum that teaches thinking through various approaches to writing. Perkins and Swartz (1992), refer to the integration of thinking skills into all content areas as an "Infusion Program"

(p. 67). Infusion involves intermingling direct instruction of thinking organizers during content instruction, student reflection of the content and transfer of thinking to new situations. Improvement is gained in thinking and content learning. Bellanca and Fogarty's (1991) cooperative classroom cites, Marcus and McDonald's (1990) B.U.I.L.D. model as "Building in higher-order thinking for transfer" into each lesson (p. 163). The integration of critical-thinking into content areas increases retention, creates meaningful transfer of learning and is a natural way to increase critical thinking skills.

The literature suggests specific methodologies to teach critical thinking. Experiential education and active learning comprise just two of the many methods that have evolved. Stevens and Richards (1992), refer to John Dewey (1938) as an early promoter of the method of learning through "direct experience, by action and reflection" (p.1). The teacher's role is one of an active learner. They learn along with their students, undergo trial and error situations with them, reflect on their own lessons and respond to their students' reactions to the lessons. Critical thinking is emphasized in the reflection portion of this method. The active learning method clarifies that not all interactions between the teacher and student are active. In the ERIC Digest titled, Active Learning: Creating Excitement in the Classroom (1992), the student must read, write discuss and problem solve. "To be actively involved, students must engage in such higher-order thinking tasks as analysis, synthesis, and evaluation" (p.1). The teacher modifies lectures to allow for absorption and combines discussion with lecture. The addition of visuals, questioning techniques and writing are also involved in active learning.

The direct instruction of teaching critical thinking is a highly regarded methodology. Kerka (1992), states that, "higher-order thinking is essential and must be taught" (p.1). Kerka describes techniques, similar to that in other literature, to directly teach critical

thinking. There is agreement on the various ways to: organize student knowledge; build on previous knowledge; assist with information processing; facilitate thinking; and model specific critical-thinking behaviors. Hirose (1992), specifies open-ended questioning as a valuable strategy to directly teach critical thinking. Students must "ask questions, be questioned...reflect on how their beliefs might affect and compare to others [and] to apply what they have learned to the real world" (Hirose, 1992, p. 2). A considerable amount of literature points to metacognition as a key skill to directly teach critical thinking. Costa (1991), defines metacognition as, "being conscious of our own thinking and problem solving during the act of thinking and problem solving" ,adding, "it has been found that good problem solvers do it" (p. 11). This process involves making an action plan for the task, monitoring ones self during involvement, adjusting the plan and evaluating the completed task.

The fine arts are usually viewed as dealing with emotion and innate physical skill levels more than dealing with thinking skill levels. Williams reviews one of the points made in Elliot Eisner's book The Enlightened Eye, "Creation of images is a matter of mind that calls for inventive problem-solving capacities, analytic and synthetic forms of reasoning, and the exercise of judgment" (p.68). These skills can be transferred to all areas of a person's life, regardless if it is art or not. There is evidence that students have improved in areas of vocabulary and writing skills after being in a formal art program (Williams, 1995, p.68).

The areas of visual art include art production, art history, the aesthetics of art and art criticism. "Realizing that art, present as it is in different situations for different reasons, will provide material for discussion and sharing" (MacGregor, 1992, p.2) The various areas of visual art lend themselves to critical thinking. By articulating, responding and developing critical judgments about art, students "are capable of making informed choices and reasoned judgments about art" (Duke, 1990, p.43).

Gilmore, (1991) describes a visual artist's personal characteristics as one who has special talents and a creative intelligence "to help see, perceive, describe the world and our interrelationships with it and with each other and identifies and helps to solve problems, which are not always or necessarily only visual in nature" (p. 36). These personal characteristics are valuable traits to possess when it comes to the areas of learning and critical thinking. Who is to say that every student couldn't be taught these skills and convey them to every aspect of real life?

Project Objectives and Processes

As a result of increased instructional emphasis on art criticism processes, during the period of September 1996 to February 1997, the sixth grade students from the targeted class will increase their ability to make decisions and solve problems, as measured by teacher-constructed tests, projects and checklists.

In order to accomplish the project objectives, the following processes are necessary:

1. Vocabulary needed to assist students with art criticism will be refined and reinforced.
2. Open-ended questioning techniques will be taught and applied.
3. Constructive criticism will be introduced, modeled and utilized.
4. Critique sessions will be held and measured by a checklist.
5. A student journal will be kept.
6. Materials that cultivate critical thinking will be developed.
7. Curricular units reflecting these decisions will be constructed.

Project Action Plan

The following action plan is designed to increase the instructional emphasis on art criticism in the targeted sixth grade class. The targeted students receive art instruction once a week for 45 minutes. Five major processes will be implemented: refinement of art vocabulary, teaching of open-ended questioning, teaching of constructive criticism, the establishing of critique sessions and the keeping of a student art journal. The improvement sought, as a result of the implementation plan, is an increase in student's ability to make decisions and solve problems.

The researcher will design and administer a teacher opinion survey. (Appendix D) The survey will be given to 60 teachers during the first two faculty workdays of the school year: August 22 and 23, 1996. This survey was written in the summer of 1996 to assist data collection for probable cause.

The students will be assessed in current critical thinking status based on a teacher-constructed pretest, Venn diagram and a problem-solving art project. (Appendices A,B,C) These assessments will be administered during the first class period in September 1996. The students will be given the 45 minute class session to complete these assessments.

The last piece of data collection will be a critique session checklist. (Appendix E) A critique session involving students in a discussion of "Cave Art" (15,000 B.C.) by people in the Magdalenian period will take place during the third class period in September 1996. The teacher will conduct the critique session and tally the frequency of listed characteristics on the checklist. All of the above mentioned data collection instruments were developed in the summer of 1996 to illustrate the extent of the problem.

The following components of the implementation plan represent four processes involved in art criticism. The fifth component will be the keeping of a student art journal which is an ongoing process. The researcher designed the materials and curriculum, to be utilized by the students, during the summer of 1996. The start of the implementation will be during the fourth class period in September 1996.

The first component of the implementation plan will be the review and refinement of art vocabulary. These terms/concepts will be contained on a vocabulary sheet with definitions that the student can refer to at any time, specifically during future critique sessions. (Appendix F) The whole class will review the vocabulary words that consist of the concepts of the elements and principles of art. The students will be introduced to

the visuals on the classroom wall, which are commercially made posters that illustrate the concepts of the elements and principles of art. The class will then apply these concepts to a piece of artwork being displayed. The goal of using the correct vocabulary to describe the elements and principles of art contained in a work of art is introduced. Emphasis on applying the correct vocabulary terms to combine the elements and principles of art together is introduced and modeled by the researcher. This review and refinement will take place during two class periods: September 20 and 27, 1996. It will be combined with an art project and a follow-up critique session of student art work to further enforce vocabulary usage.

The second component of the implementation plan will be the teaching and application of open-ended questioning techniques. The students will learn the difference between "complex thought questions" and "factual questions" that Bellanca refers to as "fat" and "skinny" questions (Bellanca, p.34). Because of the social stigma surrounding the terms "fat" and "skinny" the researcher will refer to them as "meaty" and "lean" questions.

The researcher will conduct a lesson using a T-chart that compares meaty and lean questions. After explaining what meaty and lean questions are, the students will be asked to categorize question stems that have meaty and lean question words in them. (Appendix G) The students will be asked to justify their choice of which category to place the question stems in. The students will be divided into groups and each group will be given a reproduction of a piece of artwork. Each group will be asked to create three meaty and three lean questions about the artwork and share their list with the class. A final check for understanding will be a worksheet with a list of ten questions. These questions involve art and life situation type questions. Each student will label each of the ten questions with either meaty or lean. This lesson will be taught in one 45 minute class period: October 4, 1996.

The third component of the implementation plan will be the teaching and application of constructive criticism. The researcher will conduct a lesson starting with an explanation of what constructive criticism is and the class will give suggestions on a T-chart of what a criticism prompt sounds like and feels like. (Appendix H) The students will be divided into groups and complete a worksheet of restructuring five negative judgmental statements into constructive statements. (Appendix I) The group will share one of their original statements and the restructuring of that statement with the class. The groups will then be given a reproduction of a piece of artwork. The group will be instructed to restructure three negative judgmental statements about the artwork on a worksheet. (Appendix J) Each group will share one of their original statements and the restructured statement with the class while holding up the reproduction. This lesson will be taught in one 45 minute class period: October 11, 1996.

The fourth component of the implementation plan is the establishing of critique sessions. The researcher will conduct and model a critique session with the class. The three components: review and refinement of art vocabulary; teaching and application of open-ended questioning techniques; and the teaching and application of constructive criticism will be utilized and synthesized during the critique session of a reproduction of a piece of artwork. A related problem-solving art project will be introduced and started. The critique session will be recorded on the critique session checklist that tallies selected criteria. (Appendix K) The critique session and the start of the art project take place in one 45 minute class session: October 18, 1996. The art project will be completed during the following 45 minute class period: October 25, 1996.

The cycle of critique sessions, involving the checklist, and lesson introductions, with starting time, will continue on a biweekly basis: November 1 & 15, 1996 (Appendices L and M) December 6 & 20, 1996 (Appendix N) and January 17 & 31, 1997. (Appendix O)

The sessions following these biweekly dates: November 8 & 22, 1996; December 13, 1996; January 10 & 24, 1997 and February 7, 1997 will be devoted to the completion of the problem-solving art project. The cycle will end with a final critique session and checklist: February 14, 1996. This critique session and checklist will be of student selected reproductions of artwork and/or student artwork . (Appendix P) One of the checklists from this session will be compared to the initial critique checklist recorded on: September 13, 1996. (Appendix E) This will be presented as post intervention data in Chapter four.

The fifth and final component of the implementation plan is the construction and keeping of a student art journal. (Appendix Q) The journal pages were designed by the researcher during the summer of 1996 and constructed by the targeted students during the second class session: September 6, 1996. The journal is to be completed by each student every week and handed in to the researcher starting the third class session: September 13, 1996. The journal is an on-going check for critical thinking skills and will continue through to the last class session of the implementation period: February 21,1996.

The last class session of the implementation: February 21, 1996 will be utilized for post intervention assessment of the targeted students. The students will be given the 45 minute class session to complete the assessment (Appendices A,B,C) The results will be presented as post intervention data in Chapter four.

Methods of Assessment

In order to assess the effects of the intervention, the pretest and posttest results will be compared. (Appendices A,B,C) The initial critique session checklist and the final critique checklist will be compared. (Appendices E and P) A narrative account of the students' ability to synthesize the action plan components, and apply them to the critique sessions will be given.

CHAPTER 4

PROJECT RESULTS

Historical Description of the Intervention

The objective of this project was to utilize critical-thinking skills to improve students' decision-making and problem-solving abilities. The implementation focused on an increased instructional emphasis on art criticism processes, during the period of September 1996 to February 1997. In order to accomplish the project objectives, the following processes were necessary: refining and reinforcing art vocabulary skills, teaching and applying open-ended questioning techniques, modeling and utilizing constructive criticism, holding critique sessions measured by checklists, keeping student journals and producing problem-solving based art projects.

The first component of the implementation was the review and refinement of art vocabulary. The students were introduced to the visuals on the classroom wall, which are commercially made posters that illustrate the concepts of the elements and principles of art. The original plan was to construct a vocabulary sheet for the students to review and refer to during the critique sessions. The teacher/researcher instead, had the students come to consensus on the definitions of the 14 terms and record them in their student journals, which were constructed the second class meeting. The terms were then put into a hand-out for the students in *Appendix F*. After completing each definition in their journals the students' attention was then directed to the posters to

reinforce the art vocabulary concepts. The next class period was the production of a group cave art project and a quick critique of their student artwork.

The teacher/researcher felt very hurried during these two class periods and by the fifth week of research, could tell that the targeted students were "art production starved". There was one inquiry from a parent as to when, and if the students were going to "do" art. There was also several concerned targeted students that questioned the teacher/researcher about the art lessons that the other sixth grade classes were doing, and if they were going to be able to do the same lessons. The students were told that the art lessons that the other sixth grade classes were doing would be done by this class at the end of February. Another point of interest was the two students that had parents that would not sign the permission slips. One student wanted to be involved regardless, and the other was against being involved.

The second component of the implementation plan was to teach and apply open-ended questioning techniques. A discussion of the difference between complex thought questions ("meaty") and factual questions ("lean") was held. The students were asked to organize pre-made questions, located on sentence strips, onto the T-chart illustrated in *Appendix G*. Students were divided into groups and asked to create three meaty and three lean questions referring to an art reproduction and have the class determine which category the question should be put in on the T-chart. Due to time constraints, the class period ended with a discussion of instances of real life situations that people utilize this skill, instead of the worksheet that was previously planned on. The discussion led to situations of job interviews and general conversation skills.

The third component of the implementation plan was the teaching and application of constructive criticism. The class session started with an explanation of what constructive criticism is and gave suggestions as to what it sounds and feels like on a

T-chart that was posted on the board. An illustration of the T-chart is in *Appendix H*. The students were divided into groups to complete the worksheet in *Appendix I* that asked them to restructure five negative judgmental statements into constructive statements. The same procedure was followed applying constructive criticism to an art reproduction in worksheet form in *Appendix J*. Each group shared one of their constructive statements with the class while holding up their reproduction.

The fourth component of the implementation process was the establishing of critique sessions. The teacher/researcher modeled how to critique a piece of artwork. The above three component concepts: art vocabulary, open-ended questioning and constructive criticism were applied. A critique and discussion of Ancient Egyptian artwork was held, while the teacher/researcher filled out a critique checklist located in *Appendix K*. A critique session and the start of a problem-solving art project was planned to take place on a biweekly basis, with the following class period devoted to finishing the art production portion. After three rotations of this plan, the teacher/researcher realized that the students weren't able to complete the production portion of the lesson. This resulted in student discouragement and many complaints having to do with being able to complete what was started. Beginning on December 6, 1996, the plan was changed to a four week rotation of critique sessions and art production. The critique sessions totaled one baseline session *Appendix E*, five subsequent sessions *Appendices K,L,M,N,O* and one final session *Appendix P*. The final session was a comparison of Stuart Davis' and Paul Klee's artwork and the checklist from that session was compared to the first baseline session's checklist. The outcome of the comparison is further explained in the "presentation and analysis of results" portion of this chapter.

The fifth and final component of the implementation plan was the construction and keeping of a student journal. The layout is illustrated in *Appendix Q*. The journal was

constructed during the second class session and was to be completed by each student on a weekly basis. The journal was intended to store notes, requirements, thoughts and ideas on lessons.

The journal began as a strong component in the implementation, but ended early as an additional burden to the teacher/researcher and students. Students, often times, did not come to class prepared with the completed journal entry or the journal itself. Students requested to keep the journals an additional week, which would prohibit the teacher/researcher from reviewing them. When the journals were reviewed and handed back, the students would neglect to elaborate on suggested journal entries. The journal would have been more effective if a point system was in place. Scheduling and time constraints were also a problem with the journal.

The last class period of the implementation was utilized for post intervention assessment which was the same assessment as the teacher-constructed pretest shown in *Appendices A,B,C*. The posttest was less hurried than the pretest. The class period that the pretest was administered involved explaining the research, and passing out permission slips. This caused a loss of time to complete it. The posttest class period did not have these issues to deal with, so it allowed for more time on the assessment.

Presentation and Analysis of Results

The effects of utilizing critical-thinking skills through an increased instructional emphasis on art criticism was assessed by comparisons of the pretest and posttest data. A narrative account of ongoing student critiques of artwork, documented by checklists, further assesses the intervention. Of the 29 students originally enrolled in the targeted class, 26 students were involved in the baseline data collection and 27 students were involved in the post intervention assessment data.

The first part of the three part posttest asked students to create five solutions to a problem. (Appendix A)

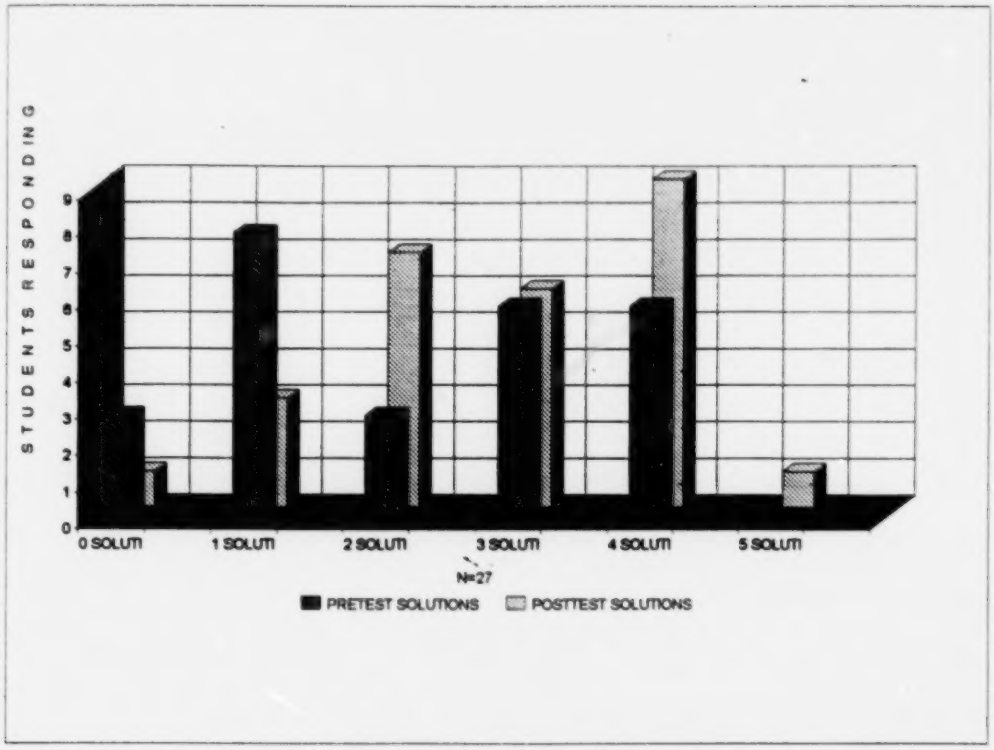


Figure 6. Comparison of the number of students' responses from the pretest and posttest.

Previous data, taken from the pretest, showed that the majority (54%) of the students were able to create two or less solutions that were valid. None of the students were able to present a fifth solution to the presented problem. As the posttest data in figure 6 indicate, the majority (59%) of students were most recently able to respond with three or more valid solutions. One student was able to create a fifth solution to the presented problem. The data shows a growth in the number of solutions the students were able to create.

An additional portion of this problem-solving section of the pretest/posttest, requested students to reflect on their solutions. They were to choose their best solution and justify it. This skill is known as metacognition, which is thinking about your

thinking. As the data in figure 7 illustrates, the students' ability to exhibit metacognitive skills increased from 35% on the pretest to 44% on the posttest.

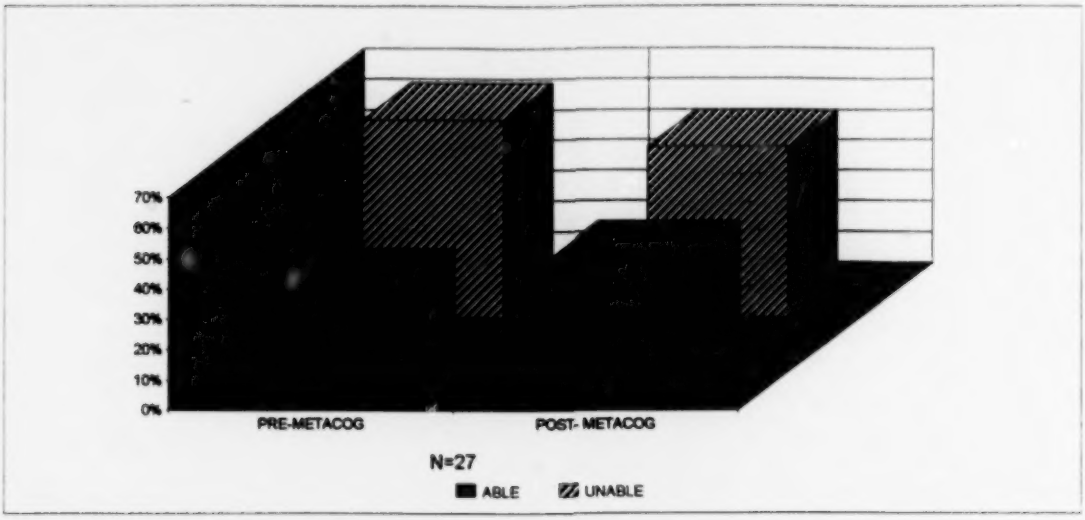


Figure 7. Percentage comparison of students' ability to exhibit metacognition.

The second part of the three part posttest was the completion of a Venn diagram. (Appendix B) The Venn diagram asked students to list the characteristics and commonalties of and between a person and a dog. The number of characteristics and commonalties, produced by each student, was indexed by the researcher (Table 2) to evaluate students' critical-thinking ability.

Table 2
Index for Scoring Venn Diagram

Total Characteristics and Commonalties	Evaluative Level
16-12	Outstanding critical-thinking ability
11-7	Good critical-thinking ability
6-2	Fair critical-thinking ability
1-0	Poor critical-thinking ability

When comparing the pretest and posttest data of indexed levels of critical-thinking ability, it is apparent, in figure 8 that there is a 92% increase in the number of students demonstrating good and outstanding critical-thinking ability.

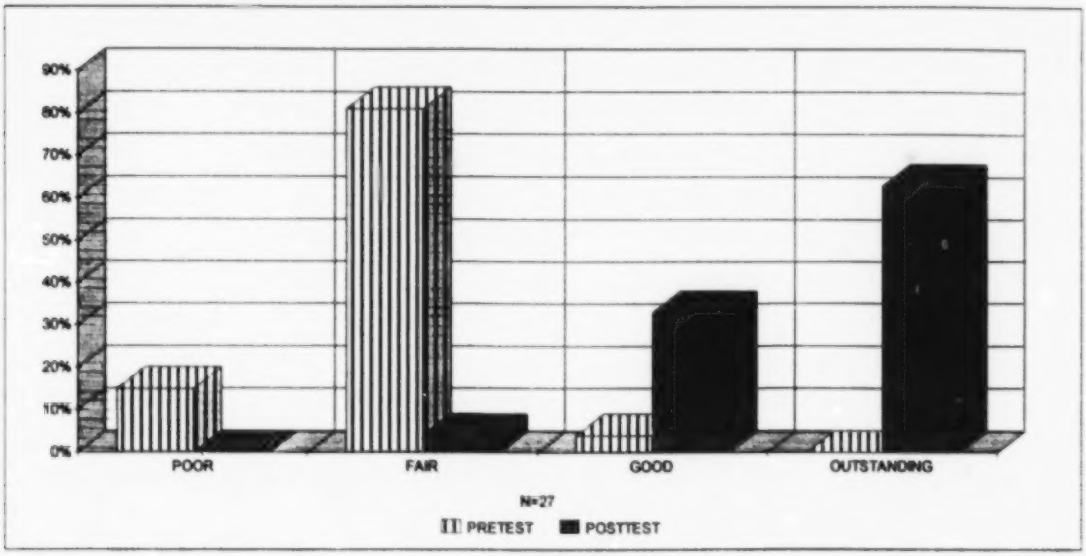


Figure 8. Comparison of pretest and posttest indexed levels of critical-thinking ability.

The final part of the three part posttest was the completion of a problem-solving art project. (Appendix C) This art project asked the students to create a drawing out of four preprinted shapes. The students were to include five requested elements to their artwork. When this same portion was given as part of the pretest, the teacher/ researcher observed that testing conditions were not conducive to conclusive results. The students were able to view other students' artistic solutions to the problem-solving art project. There was a high student comfort level with this type of assessment. The posttest results were somewhat more individualistic. The teacher/researcher observed more original solutions, correct elements and private approaches to this final part of the posttest.

The ongoing student critique sessions of artwork were designed in order to apply the processes of utilizing: art vocabulary, open-ended questioning and constructive

criticism. The baseline critique session and checklist took place during the third class period in September 1996. (Appendix E) The artwork critiqued was prehistoric cave art. The subsequent critique sessions followed a chronology of ancient civilizations and ended with the artwork of two contemporary artists. (Appendices K-P)

The tallied student characteristics of the critique session checklists show that there are varied amounts of student responses due to artwork subject matter and student interest level. There are increases and decreases of responses depending on what was being viewed by the students and if they found the culture, itself, intriguing or not. An example of this circumstance would be: Comparing a critique checklist from Ancient Egyptian artwork and architecture to the oil paintings, frescoes and artists of the Renaissance. Each historic time period involves different social, economical, and cultural influences surrounding its artwork, therefore, varied responses were given by students. The critique checklists show no apparent progressive increases of student responses throughout the research time period.

The teacher/researcher did observe a growth in the students' ability to critique artwork. The students became more aware of the analysis objective. They gradually became comfortable with the critiquing procedure. The students displayed the ability to apply what they had learned, vocalize thoughts, predict ideas, and come to conclusions. These behaviors are characteristics of critical thinking.

Conclusions and Recommendations

Based on the presentation and analysis of the data comparing the pretest and posttest, as well as the critique checklists and teacher/researcher observations, the students showed a substantial improvement in their ability to make decisions and solve problems. The learning and application of art vocabulary, open-ended questioning and constructive criticism lead the students to successfully critique artwork. The critiquing

and production of artwork is a natural means for a student to use critical-thinking skills, and presents them with problems to be solved and decisions to be made.

Although the data shows an increase in ability levels of the students to think critically, this intervention alone, can not take full credit for the growth. The self-contained classroom teacher is working on a daily basis with these students on the same outcomes as the intervention was. Art education promotes the utilization of critical-thinking skills. This research concludes that art education provides a valuable supplement to students that enriches the educational curriculum as a whole.

There are many things that people would change about the decisions that they have made in their lives, given the chance. In retrospect, this research certainly wouldn't be excluded from a critique. The profession of art education, always places that teacher of it in the role of dissecting many things and encouraging students to go further. The experience of determining a problem area, designing an intervention, inventing the tools needed to carry it out and implementing the intervention is a valuable one.

The intervention did accomplish its goals with a minimum of problems. There was definitely a time constraint problem, due to the limit of 45 minutes in a class period. This time limit prevented more in depth continuances of activities. It also caused an adjustment in the procedure of critiquing artwork and following it with an art project.

The construction of the tools to carry out the intervention could have been improved with more insight as to exactly what the researcher was intending on measuring. An example of this is the critique checklist. (Appendix E) The researcher should have included more observable characteristics having to do directly with the processes of art vocabulary, open-ended questioning and constructive criticism. The researcher was able to narrate the behaviors, but unable to include them on the checklist tallies.

Teachers tend to be overzealous when presented with a task to complete. They are inclined to believe that since they do so many tasks everyday, that they have the ability

to do more. This research project contained five processes in order to reach its goal. The fifth being the keeping of an art journal. (Appendix Q) The art journal was an excellent idea that the teacher/researcher would like to explore further, given the time. Time is the key word in that statement. The journal did not fit into the time allotment of the research period. This research brings to mind many other new ideas that the teacher/researcher has yet to investigate.

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"APPENDICES"

Appendix A
Problem-Solving Pretest/Posttest

WHAT WOULD YOU DO?

NUMBER_____
DATE_____
CLASSROOM
TEACHER_____

DIRECTION: Close your eyes while I read to you the situation below. Imagine five things you would do if this happened to you. You will then write and briefly explain five options you would take if you were in this situation. After you are done writing down the five options you would take, decide which one would be the best one. Write the number of that option in the box provided and explain why you think it is the best option.

SITUATION: You are walking home from your friend's house and notice a stray dog wandering by the street. The dog seems to be very friendly and follows you all the way home. When you get home, the dog won't go away. You feel sorry for the dog and want to find his owner. What would you do to help the dog?

1.

2.

3.

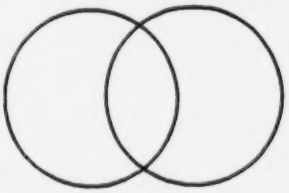
4.

5.

NUMBER_____ is the best option because...

Appendix B
Venn Diagram Instructions Pretest/Posttest

VENN DIAGRAM



NUMBER_____

DATE_____

GRADE_____

TEACHER_____

INSTRUCTIONS: ON THE FOLLOWING PAGE YOU WILL FIND A DIAGRAM.

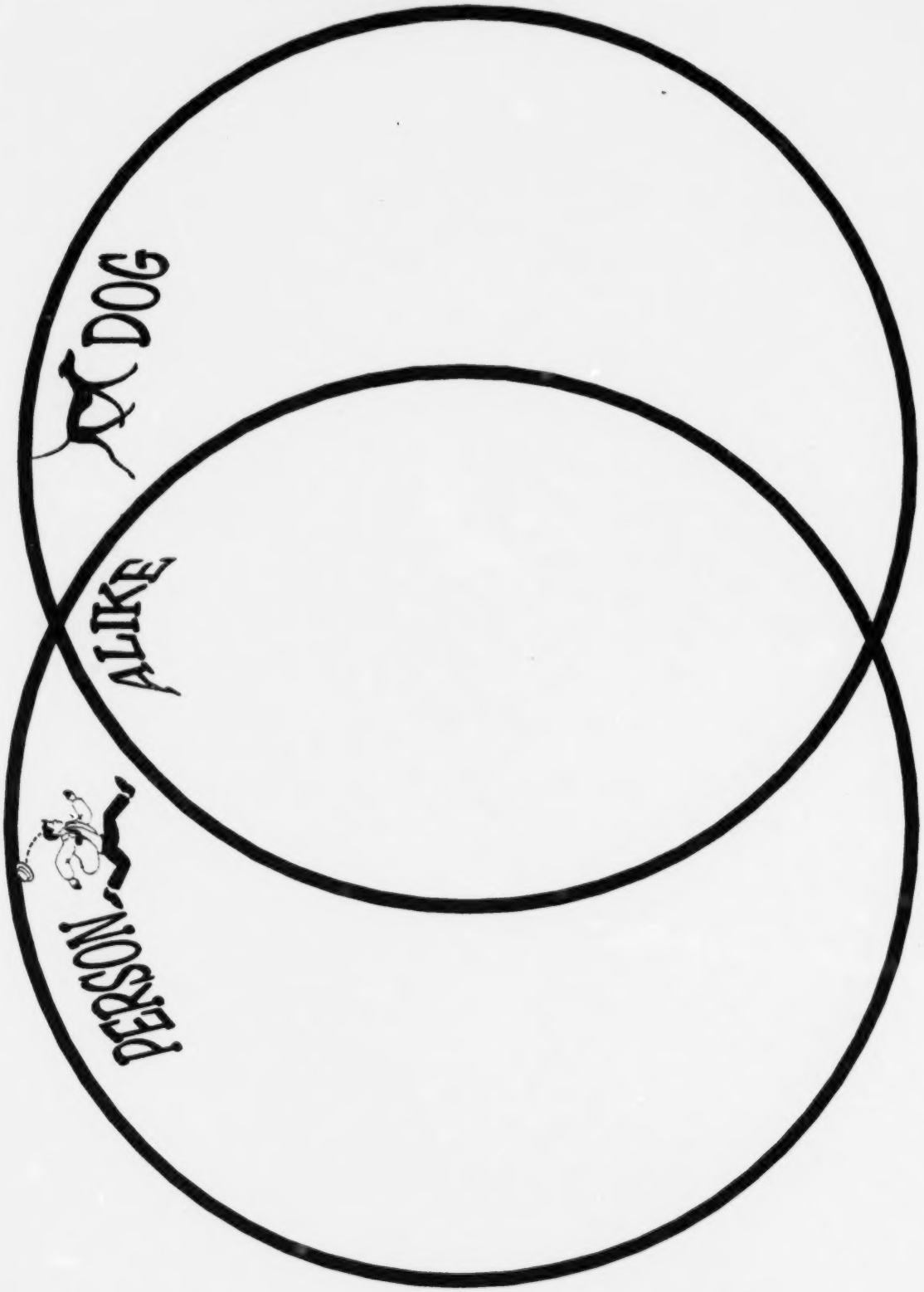
IN THE CIRCLE WITH THE PERSON IN IT: PLEASE WRITE DOWN ALL OF THE THINGS THAT YOU CAN THINK OF THAT DESCRIBE THE CHARACTERISTICS THAT A PERSON HAS.

IN THE CIRCLE WITH THE DOG IN IT: PLEASE WRITE DOWN ALL OF THE THINGS THAT YOU CAN THINK OF THAT DESCRIBE THE CHARACTERISTICS THAT A DOG HAS.

IN THE OVERLAPPED SPACE LABELED "ALIKE": PLEASE WRITE DOWN ALL OF THE THINGS THAT YOU CAN THINK OF THAT A PERSON AND A DOG HAVE IN COMMON.

GENERAL ADVICE: PLEASE BE THOUGHTFUL. TRY TO THINK OF CHARACTERISTICS OF PEOPLE AND DOGS THAT ARE LESS OBVIOUS TO MOST PEOPLE.

Appendix B
Venn Diagram Pretest/Posttest



Appendix C
Problem-Solving Art Project Instructions Pretest/Posttest

CREATE A DRAWING

NUMBER_____

DATE_____

GRADE_____

TEACHER_____

INSTRUCTIONS: ON THE FOLLOWING PAGE YOU WILL FIND FOUR SHAPES. PLEASE MAKE A DRAWING OUT OF THE FOUR SHAPES.

REQUIREMENTS:

-YOU MAY USE YOUR PENCIL.

-YOU NEED TO USE *SIX COLORS OR LESS.*

-YOU NEED TO SHOW *AT LEAST ONE AREA OF DRAWN TEXTURE* (VISUAL TEXTURE).

-YOU MAY TURN YOU PAPER HORIZONTALLY OR VERTICALLY (EITHER WAY).

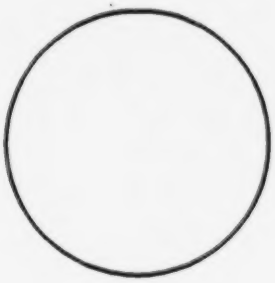
-YOU MUST *FILL YOUR PAPER UP* WITH YOUR DRAWING.

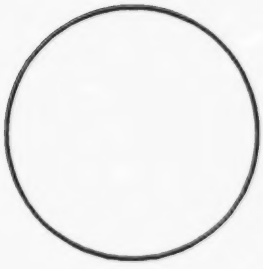
-THE DRAWING MUST BE SOMETHING *RECOGNIZABLE.*

-YOU MUST *INCLUDE ONE WORD* IN YOUR DRAWING.

-THE DRAWING MUST BE APPROPRIATE FOR SCHOOL.

Appendix C
Problem-Solving Art Project Pretest/Posttest





Appendix D
Teacher Opinion Survey Introductory Statement

INTRODUCTORY STATEMENT FOR STAFF SURVEY

This study is being conducted by Gail Woodman (Art Education), a student in the Field-Based Masters Program at St. Xavier University. The purpose of the study is to investigate the opinions of teachers regarding the topic of student's critical thinking skills. Your participation is strictly voluntary; there are no penalties if you choose not to participate. If you decide to participate, the information you provide will remain completely anonymous. Thank you for taking the time to complete the attached survey.

Gail Woodman

Appendix D
Teacher Opinion Survey

TEACHER SURVEY

INSTRUCTIONS: PLEASE RESPOND TO THE FOLLOWING STATEMENTS IN REGARDS TO WHETHER YOU STRONGLY DISAGREE, DISAGREE, AGREE, OR STRONGLY AGREE. RETURN THIS SURVEY TO GAIL WOODMAN'S (ART) MAILBOX AT YOUR EARLIEST CONVENIENCE.

STUDENT USE OF CRITICAL THINKING SKILLS

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1. Students have difficulty with problem solving and decision making.	____	____	____	____
2. Students are taught critical thinking skills.	____	____	____	____
3. Students react too quickly when trying to figure out solutions to problems on their own.	____	____	____	____
4. Students are adequately challenged with tasks that require critical thinking skills.	____	____	____	____
5. Critical thinking skills are necessary to solve problems and make decisions.	____	____	____	____
6. Pre-service teachers receive training in their undergraduate studies to support their efforts to teach critical thinking.	____	____	____	____
7. Our district provides inservice opportunities to further teacher's efforts to teach critical thinking.	____	____	____	____

THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!

Appendix E
Critique Checklist - Cave Art

CRITIQUE SESSION

CHARACTERISTICS	
SEEN	
HAND GESTURES WHEN DISCUSSING	II
EYE CONTACT WITH ITEM BEING DICUSSED	I
EYE CONTACT WITH GROUP	
GETTING UP AND POINTING OUT VARIOUS FEATURES	
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	I
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	II
SUGGESTIONS:	
HAVE YOU THOUGHT ABOUT...	
HOW DO YOU FEEL ABOUT...	
THIS WOULD BE STRONGER IF...	
DATE: 9/12/96	
ARTWORK: Cave Art	
CLASS: [illegible]	

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Appendix F
Art Vocabulary Sheet

ELEMENTS OF ART

(INGREDIENTS)

TEXTURE: The feeling of something (surface quality)

1. ACTUAL- you can feel it.
2. VISUAL- you can see it.

COLOR: Color is made from light. There must be light to see color. The whiter the light, the truer the color.

PRIMARY	SECONDARY	WARM	COOL
RED	PURPLE	YELLOW	BLUE
BLUE	ORANGE	ORANGE	GREEN
YELLOW	GREEN	RED	PURPLE
		*BROWN	*BLACK

COMPLIMENTARY
ORANGE & BLUE
PURPLE & YELLOW
GREEN & RED

SHAPE: Enclosed lines. L x W (length x width)

GEOMETRIC
-Angles
-Straight lines (mostly)
-Measurable

ORGANIC (FREE FORM)
-Curvy
-Less precise
-Harder to reproduce

FORM: 3-D (Three Dimensions) LxWxH (length, width & height) Volume and Mass of an object.

EXAMPLES:
-Sculptures
-Pottery (clay)
-Relief (sticks up from a surface)
-Puzzles (3-D)
-Weavings

SPACE: Can be empty or filled with objects.

LINEAR SPACE— is a way of organizing objects in space.
1 Point Perspective >vanishing point
2 Point Perspective >vanishing point

IMPLIED SPACE ---- Using other techniques to show space.
- -Overlapping
- -Distant objects are smaller
- -Distant objects have less detail
- -Distant objects less intense color

VALUE: Is the lightness or darkness of something.

NO COLOR
White-----to------Black

COLOR
Light in Value= Yellow and Orange
Happiness, joy, light, airiness

Dark in Value= Purple and Blue
Sadness, depression, loneliness, depression, mystery

LINE: Is a mark made with a pointed tool. It is longer than it is wider.

EXPRESSIVE
-Endless variety
-Can show emotion

CONTOUR
-Outlines edges of shapes and objects
-Describes shapes and forms in the simplest way

GESTURAL
-Indicate action and physical movement
-Viewer's eyes follow these active lines

Appendix G
T-Chart for Open-Ended Questioning

QUESTIONING

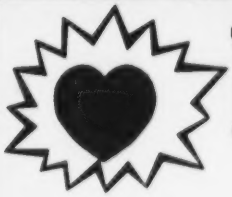
"LEAN"

"MEATY"

Appendix H
T-Chart for Constructive Criticism

CRITICISM

SOUNDS LIKE...



FEELS LIKE...

NON-CONSTRUCTIVE

CONSTRUCTIVE

Appendix I
Five Negative Judgmental Statements
on Constructive Criticism

CONSTRUCTIVE CRITICISM
FIVE NEGATIVE STATEMENTS

INSTRUCTIONS: Your group needs to work together to restructure these five negative judgmental statements. Rewrite the new statements underneath the original one.

FRIEND- "I don't like your new haircut."

PARENT- "You're stupid, you always get "D"s on your report card!"

BOSS- "You are always late and you're going to get fired!"

TEACHER- "You never get your homework done!"

SALESPERSON- "Those jeans are definitely too tight!"

Appendix J
Three Negative Judgmental Statements
Towards Artwork

CONSTRUCTIVE CRITICISM
THREE NEGATIVE STATEMENTS
(HAVING TO DO WITH ARTWORK)

INSTRUSTIONS: Your group needs to work together to restructure these three negative judgmental statements and make them positive things to say. The three statements have to do with artwork, so look at piece of artwork provided at your table and rewrite the new statement underneath the original one.

1. "That painting is ugly!"

2. "That looks like a little kid made it!"

3. "That doesn't look like what it really is supposed to look like!"

CRITIQUE SESSION	
CHARACTERISTICS	
SEEN	
HAND GESTURES WHEN DISCUSSING	
EYE CONTACT WITH ITEM BEING DICUSSED	|
EYE CONTACT WITH GROUP	
GETTING UP AND POINTING OUT VARIOUS FEATURES	|
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	||
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	|
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	|
SUGGESTIONS:	
HAVE YOU THOUGHT ABOUT...	
HOW DO YOU FEEL ABOUT...	
THIS WOULD BE STRONGER IF...	
DATE: 10/18/96	
ARTWORK: Ancient Egyptian	
CLASS: Prindiville	

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Appendix L
Critique Checklist - Ancient Greece

CRITIQUE SESSION

CHARACTERISTICS	
SEEN	
HAND GESTURES WHEN DISCUSSING	
EYE CONTACT WITH ITEM BEING DICUSSED	|
EYE CONTACT WITH GROUP	
GETTING UP AND POINTING OUT VARIOUS FEATURES	|
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	|
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	|
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	
SUGGESTIONS:	
HAVE YOU THOUGHT ABOUT...	
HOW DO YOU FEEL ABOUT...	
THIS WOULD BE STRONGER IF...	
DATE: 11/1/96	
ARTWORK: Ancient Greece	
CLASS: Prindiville	

CRITIQUE SESSION	
CHARACTERISTICS	
SEEN	
HAND GESTURES WHEN DISCUSSING	
EYE CONTACT WITH ITEM BEING DICUSSED	|
EYE CONTACT WITH GROUP	
GETTING UP AND POINTING OUT VARIOUS FEATURES	
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	||
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	|
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	||
SUGGESTIONS:	
HAVE YOU THOUGHT ABOUT...	
HOW DO YOU FEEL ABOUT...	
THIS WOULD BE STRONGER IF...	
DATE: 11/15/97	
ARTWORK: Ancient Rome	
CLASS: Frindiville	

CRITIQUE SESSION

CHARACTERISTICS	
SEEN	
) HAND GESTURES WHEN DISCUSSING	|
EYE CONTACT WITH ITEM BEING DICUSSED	|
EYE CONTACT WITH GROUP	|
GETTING UP AND POINTING OUT VARIOUS FEATURES	||
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	||||
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	|
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	||
SUGGESTIONS:	
) HAVE YOU THOUGHT ABOUT...	
) HOW DO YOU FEEL ABOUT...	
) THIS WOULD BE STRONGER IF...	
DATE: 12/6/96	
ARTWORK: Renaissance	
CLASS: Pindiville	

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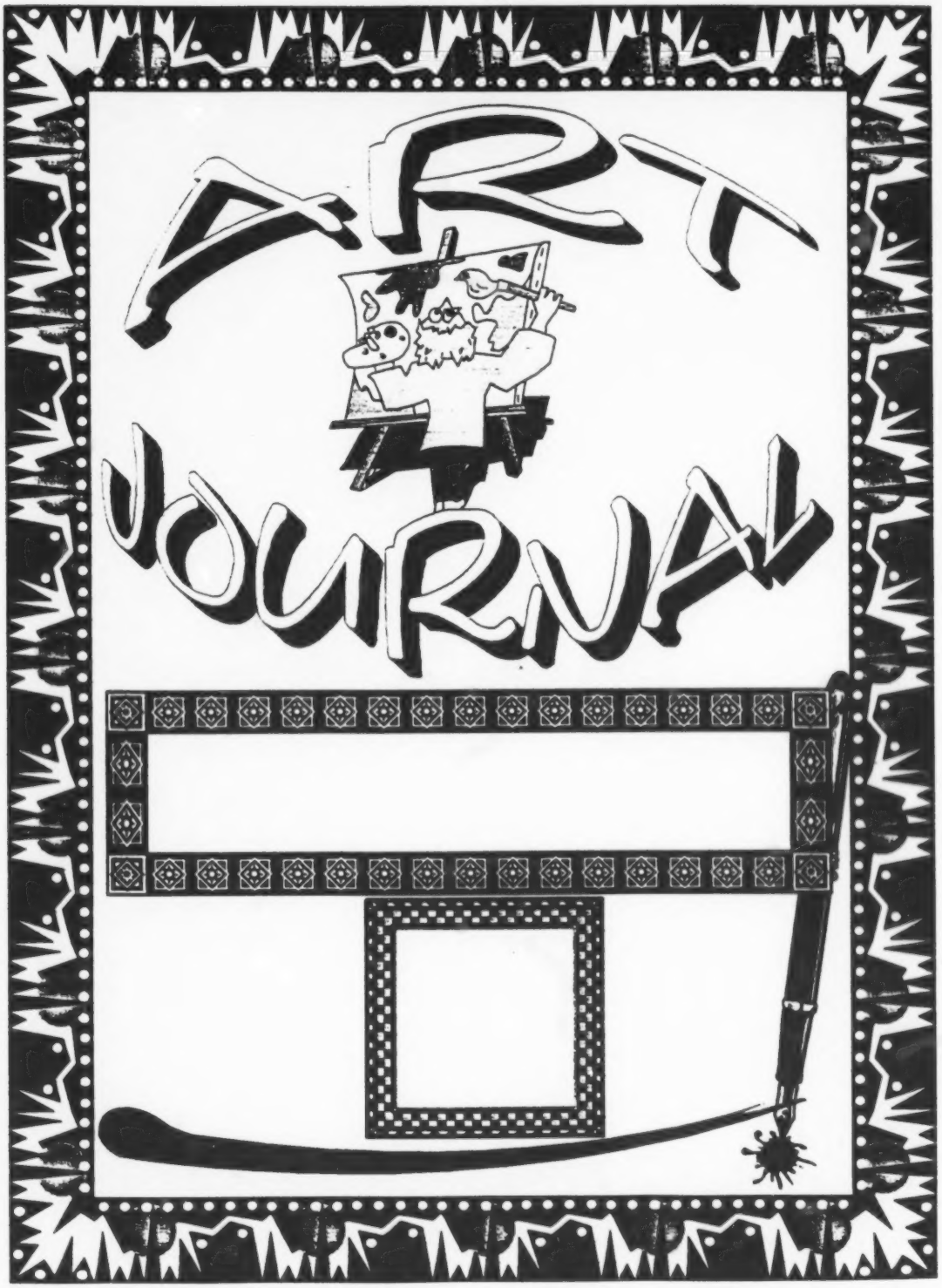
CRITIQUE SESSION	
CHARACTERISTICS	
SEEN	
HAND GESTURES WHEN DISCUSSING	|
EYE CONTACT WITH ITEM BEING DICUSSED	|
EYE CONTACT WITH GROUP	|
GETTING UP AND POINTING OUT VARIOUS FEATURES	
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	||
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	|
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	||
SUGGESTIONS:	
HAVE YOU THOUGHT ABOUT...	
HOW DO YOU FEEL ABOUT...	
THIS WOULD BE STRONGER IF...	
DATE: 1/17/97	
ARTWORK: Middle Ages	
CLASS: Purdyville	

Appendix O
Critique Checklist - Middle Ages

CRITIQUE SESSION	
CHARACTERISTICS	
SEEN	
) HAND GESTURES WHEN DISCUSSING	𝍸
EYE CONTACT WITH ITEM BEING DICUSSED	𝍸 I
EYE CONTACT WITH GROUP	𝍸
GETTING UP AND POINTING OUT VARIOUS FEATURES	𝍸
HEARD	
COMMENTS MADE RELATING STUDENT OR PROFESSIONAL ARTWORK TO THE TIME PERIOD, ELEMENTS & PRINCIPLES AND/OR ARTIST BEING STUDIED	𝍸 I
USE OF SPECIFIC ART TERMINOLOGY TO EXPRESS POINT	𝍸
COMMENTS MADE IN REGARDS TO FEELINGS/EMOTIONS TOWARD ARTWORK	I
SUGGESTIONS:	
) HAVE YOU THOUGHT ABOUT...	
) OW DO YOU FEEL ABOUT...	
THIS WOULD BE STRONGER IF...	
DATE: 2/14/97	
ARTWORK: Davis + Klee	
CLASS: Hinds ville	

Appendix Q
Art Journal - Front Cover

#



Appendix Q
Art Journal - Directions for Notes on the Lecture

NOTES ON THE LECTURE

WHO- Who are we learning about ?
A certain artist, a certain culture, a group of people, a time period ?

WHAT- What are we learning about ?
Tell me about a certain artist's, culture's, group of people's, or time period's type of artwork, style of artwork or what the artwork is called.

WHERE- Where did all of the things we are learning about take place? A certain country, area or a certain location that the artwork or people are found.

WHEN- When did all of this take place ?
A date, a year, a whole time period.

WHY- Why was the artwork created?
A special reason or motivation for why it was done.

Appendix Q
Art Journal - Page for Notes on the Lecture

NOTES ON THE LECTURE
WHO, WHAT, WHERE, WHEN, WHY ?

Appendix Q
Art Journal - Directions for Notes on the
Requirements of the Lesson

NOTES ON THE REQUIREMENTS OF THE LESSON

MY NOTES SHOULD INCLUDE:

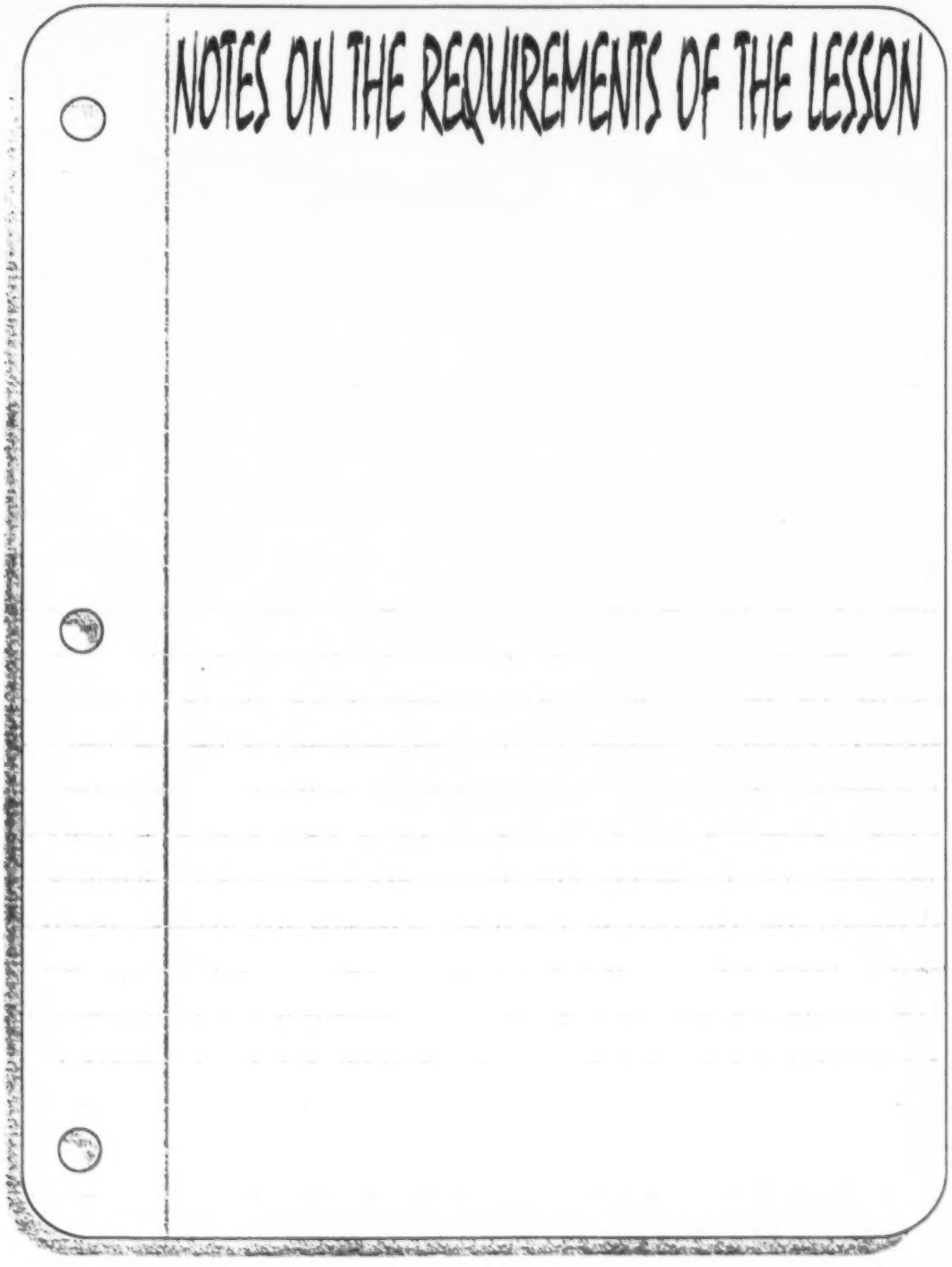
-MATERIALS THAT WE ARE GOING TO USE.
(what is the proper name of the materials and how much of each material are we using?)

-HOW ARE WE GOING TO USE THEM ?
(blending, washes, hard or light pressure...)

-WHAT DO I NEED TO INCLUDE?
The Elements and Principles of Art
(what are the basic requirements that I need to include in order to get a passing grade. What are the things I could do to go above and beyond what is asked of me and stay with in the lessons limits?)

-WHAT IS THE TIME SCHEDULE?
(what am I expected to get done today? If this is an extended lesson, what do I make time for next class period?)

Appendix Q
Art Journal - Page for Notes on the
Requirements of the Lesson



Appendix Q
Art Journal - Page for Student Thoughts
and Journal Entries

MY THOUGHTS...
TO BE COMPLETED EVERY WEEK AND HAND IN THE NEXT

Appendix Q
Art Journal - Page for Student Ideas
and Sketches for the Lesson

IDEAS FOR THE LESSON (PRELIMINARY SKETCHES)